HOUSTONKEMP Economists

Memo

To	Australian Competition and Consumer Commission staff
From	Daniel Young, Ashmit Vyas, Jim Kennedy
Subject	Review of submissions on benchmark service standards
Date	4 August 2026

This memorandum is prepared in the context of the Australian Competition and Consumer Commission's (ACCC's) preparation of its final replacement module determination (RMD) for NBN Co.

The ACCC's draft RMD, published on 31 March 2026, relied upon our memorandum that assessed the costs that NBN Co contended that it would incur to comply with changes proposed by the ACCC to the benchmark service standards (BSS).[1] Submissions on the draft RMD were received in May 2026, including NBN Co's submission.

The ACCC has asked us to review specific aspects of NBN Co's response to its draft RMD on BSS, comprising NBN Co's claim for increased costs relating to its compliance with:

- uplifting the performance objectives for connection and fault appointments;
- uplifting physical connection service levels in regional areas;
- disaggregating physical and logical service fault performance objectives;
- introducing new service standards for connection and fault rectification reliability;
- introducing a new speed capacity service standard for the FTTP and HFC networks;
- introducing a new speed capacity service standard for the fixed wireless network;
- enhancing the corrective action framework;
- revising the typical wholesale busy period speed (TWBPS) threshold for the wireless speed performance rebate;
- removing rebate caps; and
- reducing the timeframe to complete network activities on the copper network.

The general approach that we take to our review of submissions is that we consider whether they provide evidence that would cause us to change our findings and recommendations in our memorandum. We may change our findings and recommendations if this evidence persuades us to adopt a different approach or to use different inputs within our approach.

1. Framework and approach for the review of NBN Co's cost estimates

Our approach in our earlier memorandum was to review the basis for NBN Co's justification of its costs and assess whether the assumptions and methodology were reasonable.

Key principles that we applied in our assessment of whether costs were reasonable were:

- **causality:** that NBN Co had established that the additional costs were required because of the prescribed change in service standards, and not merely as part of a general improvement in service standards;

[1] HoustonKemp, *NBN Co's submission on proposed changes to benchmark service standards*, 8 April 2026.

- **efficiency:** that NBN Co used a least-cost approach to meet the standards as written, not to achieve its own preferred operational strategy.

Consistent with the scope of our review and our area of expertise, in some cases we have not determined the reasonableness of costs for particular expenditure items but rather relied on NBN Co's justifications for incurring those costs. Furthermore, there were some instances where we were satisfied with NBN Co's qualitative justifications for expenditure undertaken (specifically, where NBN Co adequately explained why a particular expenditure item was necessary to achieve an objective) but did not evaluate the quantum of that expenditure.

Of particular note, we observe that across various BSS claims that we review in this memorandum, NBN Co has claimed $24.6 million of systems and fixed (or invariant) expenditure across five years. To assess whether expenditure of this type is prudent and efficient would require a different type of review, additional specialist expertise, and considerably more information and time with NBN Co management. There may be examples where we accept expenditure that is well-explained but inefficiently high, or reject prudent and efficient expenditure due to poor qualitative justification by NBN Co. Given the quantum of such expenditure being sought by NBN Co, we consider that future reviews in this area should consider:

- seeking more insight from NBN Co about the mechanism by which changes in the BSS are affecting its expenditure decision-making; and
- bringing to bear relevant technology expertise, where necessary, to assess NBN Co's claims about the likely impact on the costs of its technology systems.

NBN Co presented cost estimates and self-contained modelling for each standard. We have adopted a similar approach in our assessment, separately and independently reviewing NBN Co's proposed costs and modelling for each standard. Nevertheless, we note a number of recurring themes in NBN Co's expenditure justifications across the service standards, ie:

- **Meeting objectives in each region type:** NBN Co has demonstrated an institutional preference to meet prescribed objectives within every region type, notwithstanding that these objectives do not generally apply across regions, and NBN Co does not generally meet them uniformly today. This approach would give rise to substantial costs, because (i) it is comparatively more expensive to upgrade service standards in non-urban regions and (ii) non-urban regions tend to exhibit lower baseline service standards, meaning that the performance gap in those regions is comparatively large. In our assessment, it would be sufficient for NBN Co to meet each objective an at aggregate level.
- **Rounding up when forecasting personnel:** NBN Co has rounded all personnel estimates up to the nearest whole number. While this is reasonable in some cases, we noticed a number of instances where fractional estimates slightly above the nearest whole number were rounded up. We do not consider rounding to be appropriate or necessary in those instances. In the context of a large organisation with a multiplicity of roles that demand fractional FTEs, labour requirements can be summed together (eg, a fractional count of technicians is required across multiple service standards). Alternatively, tasks that require fractional FTEs can be completed by contractors.
- **Incurring system enhancement capex:** on a number of occasions, NBN Co has cited the need to incur 'system enhancement' capex. NBN Co's explanations often invoke general improvements to service quality without adequately demonstrating why this capex is necessary to achieve any particular service standard at least cost.

NBN Co's estimates of the costs of complying with the proposed changes to the BSS that we have been asked to review are set out in table 1.1 below, alongside the estimates that we have prepared based on our review of NBN Co's estimates.

Table 1.1: NBN Co's estimates of the costs of complying with benchmark services standards

Category (and corresponding section in NBN Co's submission)		NBN Co's estimates			HoustonKemp's estimates		
		Set up cost $m	Operating cost $m	Total cost $m	Set up cost $m	Operating cost $m	Total cost $m
Appointment service standards							
(5.1)	Performance objective for kept appointments	3.5	67.2	70.7	0.1	1.0	1.1
Connections and fault service standards							
(4.1)	Physical connections in regional areas	5.8	7.6	13.4	1.5	6.2	7.8
(4.2)	Disaggregating performance objectives for faults	7.1/6.5	20.8/10.1	27.9/16.6	0.6	5.8	6.4
(4.3)	Connection reliability	4.6	5.2	9.8			
	Effect of changing priority assistance performance objective to 95 per cent				*4.6*	*5.2*	*9.7*
(4.3)	Reinitiated service fault trouble tickets	1.5	7.9	9.4			
Speed capacity service standards							
(2.1)	Speed capacity service standard for FTTP and HFC	0.1	121.5	121.6	0.1	66.8	66.9
(2.2)	Speed capacity service standard for fixed wireless	0.0	122.4	122.4			
Supporting mechanisms							
(7.2)	Enhancing the corrective action framework	0.0	2.0	2.0	0.0	0.0	0.0
Rebates							
(6.1)	Revising the TWBPS threshold for the wireless speed performance rebate	1.9	4.1	6.0	0.0		
(6.2)	Removing rebate caps	0.3	8.3	8.6	0.0		
Copper network activity tickets							
(3.1 and 3.2)	Reducing the timeframe to complete network activities on the copper network for residential (TC-4) customers	3.4	12.7	16.1	3.4	9.7	13.1

Notes: Blank cells indicate areas for which we have not developed a cost estimate; the $66.9 million cost estimate for the FTTP and HFC speed capacity service standard reflects the undiscounted expenditure expected to be incurred from FY27 to FY31 only, with the basis of our conclusion being a one-year delay to NBN Co's proposed cost profile. See section 6 for more information.

2. Uplifting the performance objective for connection and fault appointments (5.1)

In our memorandum, we found that NBN Co had not justified the basis for its estimate that an increase in the performance objective for connection and fault related appointments kept from 90 per cent to 95 per cent would cost $69.8 million over five years. Based on our review of NBN Co's cost assessment, we estimated that it would likely incur no costs in achieving the performance objective.

The key considerations in our opinion were that:[2]

[2] HoustonKemp, *NBN Co's submission on proposed changes to benchmark service standards*, 8 April 2026, pp 2-4.

- NBN Co had estimated the costs associated with increasing performance to 95 per cent of appointments kept in all geographic areas of its network and that there were lower costs ways of achieving the performance objective;
- data provided by NBN Co indicated over a period of 18 months, it failed to achieve the performance objective in only one month, and this by a very marginal amount; and
- NBN Co had not provided clear evidence that it would struggle to achieve this performance objective in the future.

NBN Co's submission largely maintains its earlier claim, with a slight increase in its estimate of costs to $70.7 million over five years. NBN Co submits that:[3]

- although the performance objective applies across its business, it seeks to achieve the same performance standard across different geographic regions of its network; and
- it expects forecast operational conditions will impede its ability to achieve the performance objective to the same extent that it has done so historically.

Table 2.1 below sets out the breakdown of NBN Co's submission and compares this to its previous proposal and the findings of our memorandum.

Table 2.1: Breakdown of NBN Co's proposed costs of meeting kept appointments standards

Cost category	NBN Co's proposal	HoustonKemp memorandum	NBN Co's submission	HoustonKemp view on NBN Co's submission	Justification for HoustonKemp amendments
Charter	[redacted]				
Technicians in urban areas	[redacted]				Amended on the assumption that NBN Co will rectify the aggregate performance gap at least cost (ie, exclusively targeting urban areas), but recognising that there are two distinct standards for assurance and connections.
Technicians in other areas	[redacted]				NBN Co does not need to meet the 95% performance objective in any specific area.
Field area manager	[redacted]				Rounding is not appropriate. We [redacted] have now simply removed rounding.
Mobilisation	[redacted]				The standard does not require NBN Co to target remote, limited access and isolated areas.
Control tower	[redacted]				A small or no increase in the number of technicians would not require control tower support.
Reporting changes	[redacted]				NBN Co has not linked its explanation to the change in service standards.
Project management	[redacted]				This expenditure item will help NBN Co meet the standard in regional areas, which we deem to be unnecessary.
Total	**$69.8 million**	**$0.1 million**	**$70.7 million**	**$1.1 million**	

Source: NBN Co, Attachment B.2 – BSS Cost Assessment Data Book – Draft RMD_Confidential.xlsx, tab: 'Appointment Kept Costing'

[3] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, pp 51-54.

and NBN Co, nbn - BSS RMA Assessment - nbn Proposal - Final - CONFIDENTIAL.xlsx, tab: 'Appointment Kept Costing'.

2.1 Distinction between least cost and geographic equality

NBN Co's submission raises the concern about the distinction between:[4]

- our approach that assumes it will adopt a least cost option to achieve a performance objective; and
- its approach to such considerations, which often seeks to achieve the performance objective within each geographic region.

Informing its perspective on this distinction, NBN Co notes that its statement of expectations requires it to improve its services and address access challenges in regional and remote areas.

We agree with NBN Co that there is a clear distinction, both in concept and in cost, between an objective of achieving the performance objective at least cost, as against achieving it in a way shares the benefits more broadly across regional and rural end users.

Our memorandum was framed by reference to the requirements of the SAU, which direct attention towards prudent and efficient expenditure in achieving the performance objective. Specifically, we focused on the extent to which NBN Co's prudent and efficient costs would be affected by the proposed change to the performance objective. We did not consider NBN Co's statement of expectations in our assessment, since we understand that this is not a regulatory requirement on NBN Co.

In our opinion, it does not follow from NBN Co's contentions that it is required to achieve the performance objective for connection and fault related appointments by increasing the appointments kept performance in every geographical region to 95 per cent.

If the ACCC was inclined to accept, or at least give weight to, a proposition that it should allow the benefits of improvements in connection and fault related appointments kept to be shared across NBN Co's network, we would recommend that it consider doing so in a different way from that proposed by NBN Co.

In particular, on our understanding of NBN Co's appointment kept data and cost estimates, a substantial part of the costs of achieving the performance objective is driven by the fact that NBN Co's current appointments kept performance falls well short of 95 per cent in some geographic areas. This means that the costs that NBN Co estimates to achieve a 95 per cent performance objective in these areas are substantially driven by the need to close the gap to 90 per cent, and the improvement in performance in some cases may substantially exceed the five percentage point increase proposed by the ACCC.

2.2 NBN Co's historical and future performance against the objective

The data provided by NBN Co, both in the spreadsheets underpinning its February submission, and again in its most recent submission, indicate that it has achieved the proposed 95 per cent performance objective between July 2024 and December 2025 in every month except February 2025. In that month, its performance was 94.9 per cent.

NBN Co submitted that it did not achieve a 95 per cent performance objective on three months during 2025, being January, February and December.[5] In response to a request for further information, NBN Co clarified that this claim referred only to connection appointments, and that it was appropriate to consider assurance and connection appointments separately because they are subject to distinct service standard obligations:[6]

[4] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 8.

[5] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 52.

[6] NBN Co, *Request for further information to inform HoustonKemp*, 26 May 2026, p 10.

> nbn's reference to missing the appointments kept performance objective on 3 non-consecutive occasions in the 2025 calendar year is intended to refer specifically to the appointment kept performance objective for **connection** appointments (specifically cells AG57, AH57 and AR57 of the Appointments Kept data tab). It is important to note that separate performance objectives apply for appointments kept for connection appointments (section 2.2 of Appendix D to draft RMD) and appointments kept for end user fault appointments (section 9.2 of Appendix D to draft RMD).

We have verified these claims. Accordingly, we have re-calculated the expected cost of rectifying the aggregate performance gap, assuming that any efforts to do so would focus on urban areas. As compared with our previous assessment, our estimate for the expenditure on urban technicians to close the performance gap has increased from $[redacted] to $[redacted] – see table 2.1 above.

NBN Co also asserts that its performance on the assurance side will decline over time as the fibre upgrade demand drops and assurance plays a bigger role in the appointments kept service standard. NBN Co contends that because assurance appointments tend to reflect seasonal fluctuations, as the role of assurance appointments increases over time it will become more challenging for it to achieve a 95 per cent performance objective. However, NBN Co contends that it could achieve a 93 per cent performance objective without incurring additional costs.[7]

Our review of NBN Co's confidential databook indicates that over the 18 months to December 2025:

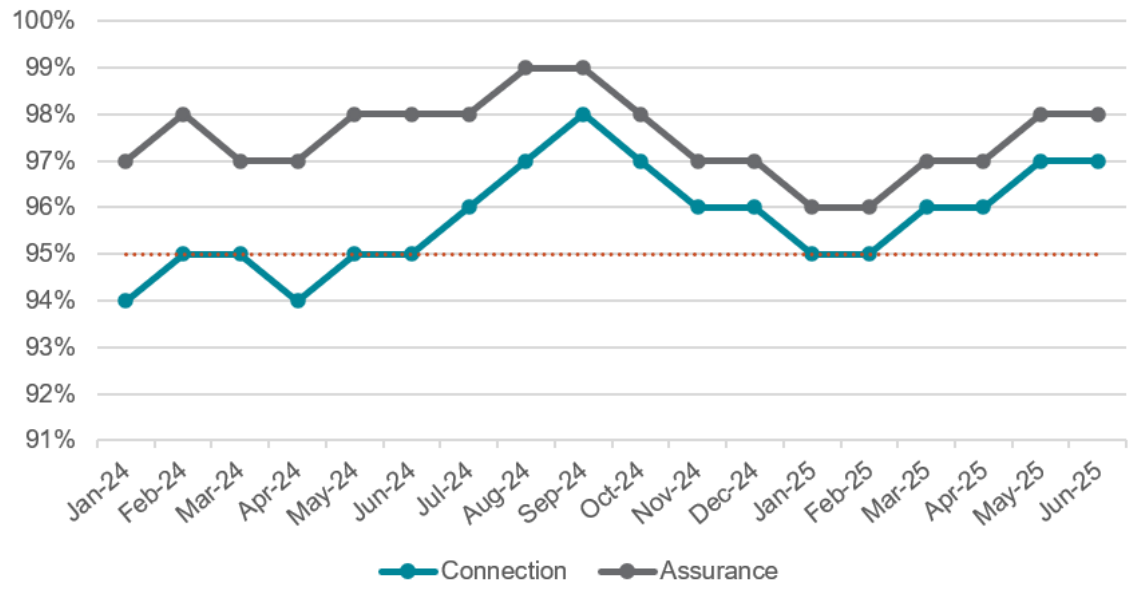
- at least 96 per cent of assurance appointments were kept in 17 months, a full percentage point above the threshold prescribed by the performance objective and higher than the appointment kept performance for connection appointments; and
- the extent of any negative trend in assurance appointments kept is difficult to discern and not well supported by the data.

These trends are also reflected in publicly available data that extends to June 2025 – see figure 2.1 below.

A decline in appointments kept over time would, in principle, give rise to higher costs of meeting the proposed service standard. However, the available evidence does not indicate that such a decline is occurring and also shows that assurance appointments outperform connection appointments when it comes to the rate of appointments kept. A higher weighting on assurance appointments over time could therefore actually increase overall appointment kept performance.

[7] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 52.

Figure 2.1: Percentage of total assurance and connection appointments kept by month



Source: HoustonKemp analysis of NBN Co, RMA Data Book – Service Standards (updated for June 2025 Quarter data and corrects labelling on tab 2.12).xlsx, tabs: 'C1.53' and 'C1.54', available at: https://www.accc.gov.au/by-industry/telecommunications-and-internet/national-broadband-network-nbn-access-regulation/nbn-co-sau-replacement-module-regulatory-cycle-commencing-2026/consultation-on-replacement-module-and-weighted-average-cost-of-capital-methodology.

3. Uplifting physical connection service levels in regional areas (4.1)

In our memorandum, we found that NBN Co had justified that it would incur some costs in order to be able to achieve increases in proposed service levels for its connections in rural, remote and isolated areas of its network. NBN Co proposed that it would need to incur $9.4 million of costs over five years. We estimated that the cost of the changes would be $4.1 million over five years.

We largely accepted the modelling framework proposed by NBN Co, although we noted that its basis for assessing the costs of changed service levels was indirect. The key considerations in our opinion that NBN Co's cost estimates were overstated were that it:[8]

- rounded up estimates of the number of technicians required for attrition, and the number of field managers, which had a material effect on its cost assessment; and
- included significant capital expenditure for system enhancements to ensure satellite and fixed wireless system efficiency, the need for which it did not link to the changed service levels.

NBN Co's submission now contends that the costs of meeting this service standard amount to $13.4 million over five years. Table 3.1 sets out the breakdown of NBN Co's submission and compares this to its previous proposal and the findings of our memorandum.

[8] HoustonKemp, *NBN Co's submission on proposed changes to benchmark service standards*, 8 April 2026, pp 4-5.

Table 3.1: Breakdown of NBN Co's proposed costs of meeting physical connection service levels

Cost category	NBN Co's proposal	HoustonKemp memorandum	NBN Co's submission	HoustonKemp view on NBN Co's submission	Justification for HoustonKemp amendments
Mobilisation and charter	[redacted]				-
Technician	[redacted]				Our estimate has increased due to updates to NBN Co's input data. We do not consider it appropriate to round [redacted]
Field area manager	[redacted]				Our estimate has increased due to updates to NBN Co's input data. We do not consider it appropriate to round up the expected number of FAMs [redacted]
Satellite and fixed wireless system	[redacted]				In our opinion, NBN Co's justification for this expenditure does not adequately link need to the changed service levels.
Connection systems	[redacted]				-
Business intelligence	[redacted]				-
Project management	[redacted]				Justification for the inclusion of this expenditure item is sparse. It is unclear how it links to meeting the new standards.
Total	**$9.4 million**	**$4.1 million**	**$13.4 million**	**$7.8 million**	

Source: NBN Co, Attachment B.2 – BSS Cost Assessment Data Book – Draft RMD_Confidential.xlsx, tab: 'Physical connection Costing' and NBN Co, nbn - BSS RMA Assessment - nbn Proposal - Final - CONFIDENTIAL.xlsx, tab: 'Physical connection Costing'.

The reason that NBN Co's assessment of the costs of mobilisations/charters and technicians has increased appears to be because NBN Co's assessment incorporates a substantial amount of additional data compared to its February assessment, about 15 times as many connection orders. Across this revised dataset, NBN Co has performed worse on average – meeting connection timeframes 91.7 per cent of the time, as compared to 93.9 per cent in its February submission.

NBN Co's February submission was responding to the ACCC's November BSS consultation paper, which did not propose specific service-level changes for regional connections, while its most recent submission responded to the draft RMD, which proposed to cut service levels by up to five business days.

In response to a request for information, NBN Co stated:[9]

> …the draft RMD proposed reduced service levels by up to 5 business days (refer section 6.21 of the draft RMD). nbn's draft RMD databook provided on 12 May therefore assesses how many connections would have met/missed these shorter service levels proposed by the ACCC. In conjunction with point 2 below, the change in service level assumptions is a key reason for the updated volumes between nbn's February submission and May submission.

We are satisfied with NBN Co's justification for the revised input data and this is reflected in our revised assessment at table 3.1 above.

[9] NBN Co, *Request for further information to inform HoustonKemp*, 26 May 2026, p 8.

4. Disaggregating physical and logical service fault performance objectives (4.2)

In our memorandum, we found that disaggregating the service fault performance objective as between technician appointments and remote resolution would increase NBN Co's costs. We estimated that the additional costs would amount to $5.3 million over five years. This was less than NBN Co's estimate of $27.1 million additional costs over five years.

The key considerations in our opinion that NBN Co's cost estimates were overstated were that it:[10]

- was able to close the gap as against its performance objectives at least cost by improving services in urban areas, whereas NBN Co calculated the cost of achieving its performance objectives across all areas and technologies in its network;
- would not require disproportionate increases in field management and resource planning costs; and
- had not justified substantial new technology investments.

NBN Co's submission contends that its costs of meeting the disaggregated performance objectives will be $27.9 million over five years if it maintains its approach to improve service levels across all geographies and all networks, or $16.6 million over five years if it adopts targeted improvements in urban areas.[11]

NBN Co's revised cost estimates are, superficially, based on a substantially similar assessment to its February submission. The increase in NBN Co's nominal cost estimate follows from its inclusion of a further $0.8 million of costs relating to [redacted] as part of the delivery of its fixed wireless performance incident framework.

However, there are some elements in the framework of NBN Co's analysis that have changed since February. Whereas previously NBN Co's assessment of costs focused on the costs of achieving the disaggregated performance objective for technician appointments, it now *also* assesses costs involved in achieving the disaggregated performance objective for remote resolutions.

NBN Co explains that it had previously made a 'simplifying assumption' that there would be no performance gap for remote resolutions, ie:[12]

> In nbn's February Submission, it did not include a detailed assessment of the performance gap for remote connections. nbn made the simplifying assumption that, if the treatment of HFC Service Fault tickets associated with NAT/NPA tickets was aligned with the treatment of fault tickets subject to a network activity on the copper network, there would be no performance gap.

NBN Co's revised analysis found that 'the performance gap for remote resolution was primarily driven by the impact of HFC'.[13] Further, its estimated costs include about $[redacted] of system capex, which it defends, contending that:[14]

- logical faults on the HFC network are an important driver of the monthly performance gap for logical faults, so information technology system changes regarding HFC faults are important for addressing this gap;
- investment in the performance incident framework for fixed wireless network will improve its performance and our assumption that NBN Co would undertake this investment regardless of changes to the BSS is not correct; and

[10] HoustonKemp, *NBN Co's submission on proposed changes to benchmark service standards*, 8 April 2026, pp 4-5.

[11] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 43.

[12] NBN Co, *Request for further information to inform HoustonKemp*, 26 May 2026, p 9.

[13] NBN Co, *Request for further information to inform HoustonKemp*, 26 May 2026, p 9.

[14] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, pp 40-43.

- improved appointment manager capabilities would improve its capacity management during surge events and allow it respond more flexibly by adjusting appointment durations.

We accept that NBN Co has provided some strong reasons for why these investments may be commercially beneficial and may even provide benefits to customers. However, in the context of assessing the costs of meeting changes in the BSS, we expect NBN Co to provide evidence of why these costs must be incurred to comply with the proposed changes. This is consistent with our approach to assessing the costs proposed by NBN Co in our previous memorandum.

In general, we do not consider that NBN Co has explained why the performance incident framework and the appointment manager capabilities are required to meet the disaggregated performance objective. That being said, NBN Co has provided an explanation that draws a causal link between its HFC system expenditure and its performance for remote resolutions – specifically, it estimates that a [redacted] investment in excluding NATs would reduce the HFC logical fault performance gap to a level that is equal to 15 per cent of current HFC logical misses. Although an assessment of NBN's estimate would benefit from technical input, we are satisfied that in principle, this explanation draws a causal link between the expenditure and the fulfilment of the service standard.

Table 4.1 below sets out the breakdown of NBN Co's submission and compares this to its previous proposal and the findings of our memorandum. NBN presents two sets of cost estimates: one is for uplifting performance consistently across geographic regions, and the other is for doing so across the entire network irrespective of geographic differences. We consider the latter to be most appropriate for this purpose.

Table 4.1: Breakdown of NBN Co's proposed costs of disaggregating physical and logical performance objectives

Cost category	NBN Co's proposal	HoustonKemp memorandum	NBN Co's submission	HoustonKemp view on NBN Co's submission	Justification for HoustonKemp amendments
Technicians in urban areas	[redacted]				In our view, it is appropriate not to round up technician turnover.
Technicians in other areas	[redacted]				
Field area manager	[redacted]				We do not consider it appropriate to round up the expected number of FAMs [redacted]
Control tower	[redacted]				It is not clear to us why an uplift in field workforce would necessitate a 'proportional uplift' in the control tower as NBN Co claims.
System enhancement	[redacted]				In our view, NBN Co has not linked this to the change in the service standard.
IT capex	[redacted]				In our view, NBN Co has not linked this to the change in the service standard, with the exception of a [redacted] allowance that would reduce the number of logical cases that need to be rectified.
Project management	[redacted]			-	In our view, NBN Co has not linked this to the change in the service standard.
Total	**$27.1 million**	**$5.3 million**	**$27.9 million / $16.6 million**	**$6.4 million**	

Source: NBN Co, Attachment B.2 – BSS Cost Assessment Data Book – Draft RMD_Confidential.xlsx, tab: 'Service Fault Costing' and NBN Co, nbn - BSS RMA Assessment - nbn Proposal - Final - CONFIDENTIAL.xlsx, tab: 'Service Fault SLA Met Costing'. Numbers

may not sum due to rounding.

5. Introducing new service standards for connection and fault rectification reliability (4.3)

The draft RMD proposes that the new connection reliability and reinitiated service fault trouble ticket service standards should:

- apply the standards to FTTP, HFC and fixed wireless networks, and to copper-based networks where the address is not 'ready for order' for a fibre upgrade or, in the case of complex MDUs, where no agreement has been reached with the body corporate to supply FTTP; and
- disaggregate the performance objective into logical, non-logical and priority assistance.

NBN Co initially stated that meeting the ACCC's proposed connection reliability standard would cost $59.7 million over five years. In our memorandum, we estimated the cost of complying with the service standard as $8.9 million on the basis that:[15]

> - on NBN Co's own assessment it does not need to improve its connection reliability performance for logical connections on FTTP to meet the performance objective; and
> - NBN Co has offered no sound basis to support its expectation that addressing a connection fault would be more expensive if it were identified by pre-connection testing, or that the increase in costs would be equal to the difference in cost between a connection and an assurance truck roll.

The ACCC's draft RMD set the cost for connection reliability at $8.9 million based on NBN Co's cost estimate for application to copper services without an upgrade path, excluding complex MDUs.

NBN Co's submission presents a revised cost estimate of $9.8 million and identifies an apparent inconsistency between our treatment of complex MDUs in the NAT cost assessment and the draft RMD's treatment of the same premises in the connection reliability and reinitiated service fault trouble ticket standards.

In assessing the cost of the 125 business day NAT timeframe, we suggested that delays in obtaining body corporate approval for fibre upgrades fall within the existing exclusion at section 24(c)(ii) of the benchmark service standards, which stops the clock where NBN Co's ability to perform a relevant activity is adversely affected by an inability to access a location necessary to perform works. Citing our reasoning, NBN Co pushes back against the draft RMD's proposal to extend the reliability standards to complex MDUs without a body corporate agreement.

We understand that NBN Co's revised $9.8 million estimate does not capture the cost of uplifting performance for complex MDUs, ie:[16]

> If the Performance Objectives were expanded to complex MDUs nbn estimates that the potential rebate impact would be in the order of $0.8 million for Connection Reliability and $0.4 million for Reinitiated Service Fault Trouble Tickets over five years from FY27. This rebate impact does not account for the much more significant cost impact if nbn were required to uplift reliability performance within complex MDUs to meet the aggregate Performance Objectives.

NBN Co nevertheless continues to ascribe $2.0 million to system enhancement and $1.8 million to control tower resourcing. We have not been provided with sufficient evidence to verify the prudence and efficiency of the system enhancement capex, and consider this question to be better suited to those with specific

[15] HoustonKemp, *NBN Co's submission on proposed changes to benchmark service standards*, 8 April 2026, p 6.

[16] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 46.

technical expertise. However, we are uncertain as to why the exclusion of complex MDUs from the service standard has not enabled NBN Co to reduce system enhancement capex.

We have also been asked to consider the effect of a 95 per cent performance objective for priority assistance, with NBN Co's modelling currently reflecting an objective of 100 per cent. Since NBN Co estimates that its current performance level for priority assistance to be 90 per cent,[17] the incremental improvements to reach a 95 per cent threshold is half of that required to reach a 100 per cent threshold. Our adjustments to NBN Co's modelling indicate that the lower threshold would give rise to a modest reduction in rebate costs, with the total cost estimate falling from $9.8 million to $9.7 million.

Separately, we note that the cost of meeting the service standard would be expected to increase if complex MDUs are included in cases where the premise has been passed but body corporate approval is pending.

In respect of the reinitiated service fault trouble ticket standard, which is new and was therefore not addressed in our first memorandum, NBN Co argues that:

- disaggregation is premature, since drivers of performance are not well understood; and
- a separate priority assistance performance objective adds unnecessary complexity.

To elaborate on this second point, NBN Co states that priority assistance assurance incidents are already subject to dedicated triage, agent-led root cause assessment and pre-departure re-testing, and the two main drivers of fault recurrence depend on RSP processes rather than those of NBN Co. NBN Co does not hold the priority assistance designation in its own systems, which limits its ability to link repeat faults to priority assistance customers and manage performance against a disaggregated standard.

NBN Co's cost estimate of $9.4 million for its alternative proposal, which does not disaggregate the performance objective, similarly relies upon large costs associated with:

- the purported need for [redacted] additional technicians; and
- $3.2 million in CNS costs.

We would expect NBN Co to incur some costs in connection with meeting the proposed fault rectification reliability standard. However, there is not a sufficient basis for us to evaluate the prudence and efficiency of NBN Co's estimated expenditure.

We understand from our discussions with NBN Co that a large majority of reinitiated trouble ticket faults are physical, not logical. We would expect that logical cases contribute minimally to the cost of maintaining the service standard, especially since NBN Co has undertaken investment in NAT/NPS STC Exclusions for HFC. Accordingly, the incremental cost of disaggregating the service standard by physical and logical faults is unlikely to be material.

6. Introducing a new speed capacity service standard for FTTP and HFC networks (2.1)

NBN Co has proposed speed capacity service standards for the FTTP and HFC networks. We understand that this would have involved separate performance objectives applying to the FTTP and HFC networks, taking a general form containing three values of interest, being:[18]

[17] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 47.

[18] NBN Co, *NBN replacement module application,* Chapter 5: benchmark service standards, 2 July 2025, p 48.

> The nbn network must deliver at least [X]% of the PIR for at least [Y]% of the time on a monthly basis for typical users at layer 2 (as measured in 30-minute intervals, across a typical 30 day-day month).
>
> Compliance is assessed against a Performance Objective, where [Z]% indicates the proportion of services meeting this standard.

The ACCC has adopted NBN Co's proposed speed capacity service standards for the FTTP and HFC networks. The key issue that has emerged with the ACCC's proposed form of these standards is its inclusion of 'overhead' in the PIR targets.

We understand that:[19]

- NBN Co's obligations under its wholesale broadband agreements with RSPs are to provide products that are configured with capacity to achieve the peak information rate (PIR) specified for the relevant product at the wholesale level (ie, layer 2);
- an end user's experience of this PIR will be less by around 10 to 15 per cent, due to various technical requirements, such as protocol overheads, packet framing, error correction and scheduling inefficiencies; and
- although it is not required to do so by the WBA or SAU, NBN Co increasingly seeks to configure its wholesale services with a commensurate degree of 'overhead' so that end users experience speeds that are on average, similar to the nameplate layer 2 service PIR.

We further understand that NBN Co's ability to provide overhead may be limited in some circumstances, such as for 1 Gbps services. This is because the NTP provided to end users with 1 Gbps services can typically only support the nameplate PIR, which means that the end users will experience performance that will be lower than the nameplate PIR.

NBN Co contends that the ACCC's proposal to include an overhead allowance as part of the PIR will require it to incur substantial costs, amounting to $121.6 million over five years including $1.6 million in establishment and system enhancement costs.

In principle, we expect that the inclusion of the overhead allowance as part of the PIR could increase the costs the NBN Co will need to incur over time on network upgrades. This is because the change would be expected to bring forward the times at which NBN Co would need to upgrade network capacity in areas of its network, noting that:

- without the ACCC's proposal, NBN Co has a degree of flexibility about when it undertakes these upgrades, since although it prefers to maintain typical overhead of 10 to 15 per cent, it is not required to do so; but
- with the ACCC's proposal, NBN Co would be required to maintain the required level of overhead, even in areas of the network that are nearing capacity constraints.

The source of these contended costs is the increased effect of significant users (or 'heavy hitters') in NBN Co's network that require earlier and more frequent network interventions in order to make capacity available so as to be able to meet the speed capacity service standard. We understand NBN Co's submission is that splitters in the FTTP network and HFC segments are unable to support significant numbers of such users without congestion.

NBN Co's estimate of $121.6 million over five years is founded on a probabilistic approach to modelling. Under this approach, NBN Co:

[19] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, pp 2, 15.

- assesses the likelihood that multiple heavy hitters on a GPON or segment will require greater expenditure on PON splits or truck rolls to upgrade HFC segments;
- calculates the increase in demand that arises due to those heavy hitters; and
- estimates the cost of serving the additional demand.

In our assessment, NBN Co's methodology does not capture the *incremental* costs of including an overhead allowance in the PIR. Instead, the methodology includes costs that NBN Co would incur on capacity augmentation even in the absence of the new service standard.

To be precise, an appropriate calculation of incremental costs would estimate the difference between:

- the expenditure required to accommodate increases in demand over time, including the mandatory overhead allowance; and
- the expenditure required to accommodate increases in demand over time, excluding any mandatory overhead allowance.

It is our understanding that NBN Co's estimate of the costs of complying with the new speed capacity service standard for FTTP and HFC only considers the first estimate above and does not calculate and deduct from it the second estimate.

In the absence of suitable evidence provided by NBN Co for the costs of complying with the new speed capacity services standard for FTTP and HFC, we have sought to estimate these costs using an alternative approach applied to the evidence that has been provided.

For the purpose of this method, we assume that a mandatory overhead allowance requires NBN Co to augment capacity by a corresponding proportion. Since demand growth also necessitates capacity augmentation over time, the new service standard effectively requires NBN Co to bring forward expenditure that it would have otherwise undertaken at a later date.

By way of example, let us suppose that NBN Co plans to expand its network capacity by 10 per cent per year in response to demand growth, with the new service standard stipulating a 10 per cent overhead allowance across all speed tiers. The introduction of such a service standard would require NBN Co to undertake network upgrades one year earlier than planned, as compared to if it were not required to provision the overhead.

Consistent with these observations, table 6.1 below shows that the counterfactual build profile absent the service standard would be one where NBN Co's proposed expenditure is delayed by one year. For FY27, the first year of the five-year period, we assume that NBN Co's expected cost is driven in equal parts by demand growth and the overhead allowance requirement, such that this would be halved if the overhead were not included in the services standard.

Table 6.1: Revised estimate of incremental cost assuming 10 per cent annual growth in demand

	FY27	FY28	FY29	FY30	FY31	FY32
NBN Co proposed profile ($m)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	-
Profile absent overhead allowance ($m)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Incremental cost of meeting BSS ($m)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: HoustonKemp analysis of NBN Co modelling.

In undiscounted terms, moving expenditure backward in time as shown in table 6.1 does not reduce costs – although it does shift $66.9 million outside the five-year window over which NBN Co is estimating the costs of complying with BSS.

This shift of one year of cost information is not economically meaningful. In our opinion, the appropriate way to consider the economic benefit (or avoided cost) of shifting expenditure backwards in time must take into account the time value of money. We measure this benefit as the difference between the present values of:

- NBN Co's proposed expenditure profile; and
- a revised expenditure profile where all spending is deferred by one year.

At a discount rate of 7.5 per cent, the present value change in expenditure is $6.1 million in the example in table 6.1.

Since this methodology relies on an assumption that demand growth and the overhead are both 10 per cent,[20] we have applied a similar methodology to conduct a sensitivity analysis across various assumptions for the underlying annual rate of demand growth. These sensitivities reflect the relative magnitude of an investment required to provide an additional overhead margin at 10 per cent to the various estimates of underlying demand growth per annum. We estimate the incremental economic cost of meeting the service standard over FY27 to FY31 to be:

- $11.8 million for 5 per cent per year underlying demand growth;
- $6.6 million for 8 per cent per year underlying demand growth;
- $2.1 million for 12 per cent per year underlying demand growth; and
- $1.8 million for 15 per cent per year underlying demand growth.

Our interpretation of NBN Co's submission is likely to be a conservative approach. A more detailed engineering assessment may find lower estimates of the costs necessary to accommodate the overhead margin. For example, NBN Co considers that the inclusion of overhead would necessitate the use of additional (higher) transmission frequencies on the HFC network, which has in the past resulted in higher connection fault rates. NBN Co's estimate of the additional truck rolls to remediate faults when activating these services assumes that the higher fault rates and resulting truck rolls continue at a permanently higher rate after the upgrades, rather than eventually converging to a lower steady-state.

7. Introducing a new speed capacity service standard for the fixed wireless network (2.2)

NBN Co has also proposed speed capacity service standards for the fixed wireless network, as a performance objective for the typical wholesale busy period speed (TWBPS) made available to each speed tier on the fixed wireless network.

The ACCC accepted NBN Co's suggested standard but proposed higher downlink and uplink performance objectives for Plus, Home Fast and Superfast services. NBN Co contends that achieving these performance objectives will require it to maintain the network at a 75 Mbps TWBPS, up from a 50 Mbps TWBPS, bringing forward network investment amounting to $122.4 million over five years.[21]

[20] However, this appears to be broadly in line with NBN Co's expectation for average monthly household consumption, which is expected to grow at 12 per cent per annum from 516 GB per month at June 2025 to 803 GB per month at June 2029. See: NBN Co, *NBN replacement module application*, Chapter 6: demand forecasts, 2 July 2025, p 4.

[21] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 21.

We agree that increased performance objectives for fixed wireless products are likely to bring forward investment in the fixed wireless network, if demand on the fixed wireless network is increasing over time. To the extent that this is the case, the magnitude of investment brought forward will depend upon:

- the degree to which NBN Co's investment in its fixed wireless network has given rise to excess capacity; and
- the rate at which any exceed capacity in the network is absorbed by increases in demand.

NBN Co provides only limited information about the process by which it has developed estimates of the costs of achieving the proposed speed capacity performance objective. Based on our review of NBN Co's spreadsheet, we observe that NBN Co:

- assumes that busy hour user demand increases at an average rate of [redacted] per cent per year, but that this is offset by a decline in the number of fixed wireless users, giving rise to average growth in total busy hour traffic on the fixed wireless network [redacted] per cent per year;
- provides some information about the engineering considerations that inform its capacity planning of the fixed wireless network and how it responses to expected increases in traffic over time, with the result of these considerations set out as estimates of the total number of new and upgraded sites required in each year for the 75 Mbps and 50 Mbps TWBPS scenarios; and
- calculates the overall cost of each scenario taking into account assumptions of:
  - average mmWave upgrade costs [redacted] per site;
  - average small site build costs [redacted]; and
  - operating costs of [redacted] incremental cells.

We also observe that NBN Co's calculation of costs of maintaining its fixed wireless network at a 75 Mbps TWBPS is expressed as an increment to the costs of maintaining a 50 Mbps TWBPS. That is, NBN Co's estimated cost represents the difference between:

- total capital expenditure of $181.4 million to maintain 75 Mbps TWBPS; less
- total capital expenditure of $60.8 million to maintain 50 Mbps TWBPS; plus
- total operating expenditure for the 'cell increment' of $1.9 million.

We requested further information from NBN Co about how it estimated the number of site upgrades and new sites associated with each of the scenarios. In response, NBN Co provided some justification, stating:[22]

> In order to assess the augmentation required to meet either an effective 50Mbps or 75Mbps TWBPS, nbn determines the sites requiring upgrade through nbn's capacity planning processes as described in the 'FW – Speed Capacity Modelling' tab of the workbook. nbn assesses each site's specific conditions according to the methodology (e.g. number of customers, availability of spectrum, actual usage) to identify those sites that do not (or are not forecast to) meet the requirements to support the applicable average typical busy period speed.
>
> If a site is identified as requiring augmentation consistent with nbn's capacity dimensioning rules, a site would be upgraded in one of 2 ways:
>
> - **Augmentation on existing site** to add more cells and increase capacity (i.e. the addition of an antennae or radio); or
> - **Addition of a small cell site** to absorb some of the capacity demand of the existing tower.

[22] NBN Co, *Request for further information to inform HoustonKemp – confidential*, 28 May 2026, p 1.

Based on the evidence available to us, we are satisfied that that NBN Co's analysis is incremental in nature, ie, its cost estimates identify additional expenditure that would be necessary to meet the service standard.

However, it is our view that there is insufficient evidence to evaluate the magnitude of NBN Co's estimated cost of complying with the speed capacity service standard for fixed wireless, or to assess whether NBN Co's estimates are prudent and efficient on this basis.

8. Enhancing the corrective action framework (7.2)

In its draft RMD, the ACCC declined to extend the corrective action trigger from one month to three consecutive months but accepted NBN Co's other proposals in relation to the corrective action framework, ie:[23]

- Providing a corrective action plan within 20 BD and updating it as necessary to reflect any changes;
- Continuing with corrective action until nbn either meets or exceeds the standard for three consecutive measurement periods; and
- Providing monthly progress reports to RSPs on relevant corrective actions.

NBN Co states that 'the estimated cost of the ACCC's proposed change to the corrective action framework' is $2 million. However, it goes on to state that the 'key driver for this additional cost is the need for additional resourcing to undertake the monitoring and reporting required to comply with the one-month trigger for corrective action plans'.[24] We note that this is not a change to the framework, but rather a continuation of an existing provision.

Based on NBN Co's response to questions posed by the ACCC, it appears that $2 million is the estimated incremental cost of complying with the corrective action framework relative to NBN Co's RMA proposal – not existing provisions. For instance, NBN Co states:[25]

> This cost arises from the increased operational workload associated with generating corrective action plans for each instance of temporary underperformance. nbn's RMA proposal proposed a 3-month trigger and requirement for 3 consecutive months of meeting the relevant Performance Objective before a corrective action is closed. When combined with the level of elevated BSS in nbn's RMA, it was expected that this corrective action approach would not drive material incremental work. However, maintaining a 1-month trigger together with the combined changes to BSS and other proposed changes to corrective action, nbn expects it will require additional resourcing to support.
>
> …
>
> Due to the incremental workload expected to operate the corrective action framework under a one-month trigger (compared to nbn's RMA proposal which was based on its proposal of a 3-month trigger), nbn forecasts that [redacted] staff would be required to administer it. This amounts to roughly $400,000 per annum.

The entirety of the $2 million expenditure is attributed to resourcing costs.

These incremental resourcing costs would depend on the number of new or substantively updated corrective action reports required as a result of the one-month trigger rather than three months. Where the same performance objective continues to not be met, NBN Co is already required to provide monthly reports on

[23] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 71.

[24] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 74.

[25] NBN Co, *Request for further information: wireless speed performance rebate and corrective action – confidential*, 16 June 2026, p 3.

progress and would draw on existing analysis and planning and note actions under way. If there is a scenario where a variety of performance objectives are only occasionally not met, logically this would require a range of new analysis and planning to support a wider range of corrective actions.

In our assessment, the available evidence suggests that the amendments to the corrective action framework would not meaningfully increase the corrective action demands imposed on NBN Co. According to NBN Co's FY25 annual service performance review, performance objectives were not met for nine activity areas. Among these performance objectives:[26]

- eight were missed in at least six out of 12 months; and
- six were missed in at least 11 out of 12 months.

This implies that a transition from a three-month to a one-month trigger would not create a need for additional staff unless:

- there is reason to believe that the pattern of missed performance objectives will change materially in the future; or
- there are significant resourcing costs associated with updating corrective action reports more frequently.

Based on the available evidence, our assessment is that the changes to the corrective action framework are unlikely to impose significant incremental costs on NBN Co, noting that the ACCC should:

- consider the potential for changes to performance objective hit/miss patterns since the 2025 annual service performance report;
- comprehensiveness and quality of corrective action reports; and
- the frequency with which the substantive content in corrective action reports is refreshed.

We accept that the proposed changes to other benchmark service standards could plausibly generate new reporting requirements for NBN Co, which may impose additional resourcing requirements. In our opinion, these requirements should be accounted by NBN Co's cost estimates for other performance objectives and service standards, since they are costs that are caused by the proposed changes in these standards – not the proposed changes to the corrective action standard.

For example, NBN Co has proposed (and we have recommended that the ACCC accept) the inclusion of additional costs for [redacted] business intelligence analysts to assist in its compliance with draft changes to service standards for physical connections (see section 3) and fault reliability (see section 5).[27] We would expect the roles of these analysts to overlap with any new reporting demands that emerge from changes to performance objectives and service standards.

9. Revising the TWBPS threshold for the wireless speed performance rebate (6.1)

The wireless speed performance rebate is paid to RSPs when a fixed wireless cell (or cell group) is persistently congested. The ACCC's draft RMD proposed to lift the rebate trigger threshold from 6 Mbps to 50 Mbps, and to apply it at cell-group level rather than individual cell level. It also adopted three exclusions from the rebate: services on the 12/1 Mbps plan, services on the 25/5 Mbps plan, and services on older W-NTD devices where the customer has declined an upgrade.

[26] NBN Co, *Annual Service Performance Review*, June 2025, pp 15-16.

[27] See 'fault reliability cost' tab of NBN Co, *Attachment B.2 – BSS Cost Assessment Data Book – Draft RMD_Confidential.xlsx*, row 40.

NBN Co supports the move away from a 6 Mbps threshold but proposes that the threshold be 25 Mbps rather than 50 Mbps. NBN Co also asks the ACCC to add a fourth exclusion: cell groups that are spectrum-constrained.

Our commentary below focuses on the two areas on which the ACCC has asked us to focus, ie:

- whether a proposed carve-out for spectrum constrained sites is defensible; and
- whether NBN Co has sufficiently justified establishment costs associated with adopting the 50 Mbps threshold

9.1 Proposed carve-out for spectrum-constrained sites

NBN Co argues that fixed wireless relies on a shared and finite radio spectrum resource, and that in some locations spectrum availability is structurally constrained by spectrum planning arrangements, interference management requirements and signal overlap limits between adjacent cells. Where spectrum is constrained, there is a physical upper bound on capacity that no amount of additional investment can overcome.

Specifically, NBN Co considers a site to be spectrum-constrained when its available mid-band spectrum is 125 MHz or less.[28] According to NBN Co, mid-band spectrum is largely fixed in the medium term because ACMA spectrum auctions happen infrequently and licences are typically issued for 15 years.[29] Thus, additional spectrum cannot be easily procured on demand.

When evaluating whether carve-outs are justified, the ACCC should first consider its intended purpose in relation to the introduction of rebates. We agree that imposing a rebate on genuinely spectrum-constrained cell groups will not deliver additional investment to uplift performance. However, the purpose of rebates may not be confined to incentivising investment to improve service, since they are also used as a form of compensation to retailers and end users who receive services that do not meet a particular performance threshold.

To the extent that the ACCC deems carve-outs to be justified in principle on the basis that some cell groups are genuinely spectrum-constrained, we have concerns with how NBN Co has defined and substantiated the spectrum constraint and how it would be applied in practice when determining eligible cell groups.

NBN Co's definition of a spectrum-constrained site relies solely on a mid-band spectrum holding of 125 MHz or less. On our understanding, this criterion is likely to be poorly targeted as the basis for a rebate carve-out, since it is neither necessary nor sufficient to identify situations where service quality is affected by constraints on spectrum availability. NBN Co's proposed exclusion mechanism does not provide for a determination of which customers and sites are in practice impacted by spectrum constraints. Under the proposed wording, NBN Co would determine which cell groups qualify for the exclusion based simply on a threshold of available mid-band spectrum, with no consideration of customer loading versus other potential causes of performance degradation, and no proposed mechanism for the ACCC or RSPs to test those determinations, and no proposed review trigger for sites whose constraint status changes over time.

That is, the proposed basis for a carve-out is likely to apply in circumstances in which NBN Co is not spectrum-constrained and may not apply in other circumstances in which it is spectrum-constrained. For example:

- the criterion does not consider NBN Co's ability to overcome spectrum limitations by other means, such as by deploying mmWave. NBN Co explicitly excludes consideration of mmWave on the basis of its

[28] NBN Co, *Request for further information: wireless speed performance rebate and corrective action – nbn response to ACCC questions regarding nbn's submission to the draft RMD*, 16 June 2026, p 1.

[29] NBN Co, *Request for further information: wireless speed performance rebate and corrective action – nbn response to ACCC questions regarding nbn's submission to the draft RMD*, 16 June 2026, p 1.

'limited propagation characteristics and inability to provide reliable wide-area coverage'[30] – notwithstanding that NBN Co has already deployed this technology at approximately 850 of the 2,300 sites in its fixed wireless network, specifically to expand capacity;[31]

- the criterion does not require NBN Co to demonstrate that constrained spectrum availability is indeed the cause of poor wireless speed performance, or provide a basis for how this could be demonstrated. Rather, there appears to be a presumption that poor wireless speed performance at cell groups affected by constrained spectrum availability is caused by this condition, rather than any other potential causes of performance degradation.

This is a different regulatory design from the existing exclusions in section 18(d) of the BSS,[32] which are verifiable from the service record (such as the speed tier or WNTD version of the affected service).

The ACCC may consider alternative approaches to defining the carve-out that increase the specificity and accuracy of its application, eg:

- demonstrating that spectrum is the limiting factor on a case-by-case basis ('inability to serve' considering number of users in a cell, potential to partially or fully alleviate congestion with mmWave overlay considering terrain etc); or
- introducing additional criteria that a cell must meet in order to qualify as spectrum constrained, eg, serving more than a particular number of customers;[33] and
- subjecting the application of the carve-out to periodic review to reflect changes in spectrum availability, deployment of mmWave or small cells, and shifts in customer distribution and demand.

Any of these actions would increase the complexity and administrative cost of meeting the service standard. In our opinion, these costs would likely be considered recoverable within the regulatory framework.

It follows that there may also be legitimate reasons for preferring a poorly targeted carve-out, if the complexity and costs associated with a better targeted carve-out exceed the benefits (including avoided costs) associated with its more accurate application. However, NBN Co has not presented any evidence or analysis to indicate whether the ACCC should accept its proposed carve-out on this basis.

9.2 Justification for $1.9 million in establishment costs

NBN Co contends that implementation costs for the wireless speed performance rebate include changes to its information technology systems, particularly in the following areas:[34]

- service health summary;
- service portal;
- B2B APIs; and
- customer centre.

[30] NBN Co, *Request for further information: wireless speed performance rebate and corrective action – nbn response to ACCC questions regarding nbn's submission to the draft RMD*, 16 June 2026, p 1.

[31] NBN Co, *NBN Co and Ericsson achieve gigabit speeds in long range fixed wireless trials*, 26 February 2025, available at: https://www.nbnco.com.au/corporate-information/media-centre/media-statements/nbn-ericsson-achieve-gigabit-speeds-in-long-range-fixed-wireless-trials.

[32] NBN Co, *NBN Co replacement module for the second regulatory cycle – benchmark service standards*, consultation paper, November 2025, p 81.

[33] This is because congestion depends on not only the maximum possible frequency, but also the number of customers that are served. In principle, a cell for which NBN Co has a licence for less than 125 MHz may not be congested if it serves a sufficiently small number of end users.

[34] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 61.

Consistent with our observations in other sections of this memorandum, much of NBN Co's commentary describes in reasonable detail why the proposed expenditure will enhance its technical capabilities and operations. However, in our opinion, the explanations are not underpinned by an explicit consideration of causality, ie, why the expenditure is necessary to comply with the change in service standards.

On that basis, our assessment is that NBN Co has not adequately justified the prudence and efficiency of the establishment cost as it relates to revising the TWBPS threshold for the wireless speed performance rebate.

In general, it is plausible that the introduction of new standards would necessitate upfront investment. However, in this case the ACCC has merely proposed to increase speed thresholds for an existing rebate. There is limited evidence supporting the proposition that this change would require substantial establishment costs, making it important that NBN Co provides evidence explaining the basis for how its estimated $1.9 million of costs is required over and above existing systems to meet the revised standard.

10. Removing rebate caps (6.2)

The draft RMD removed rebate caps for connections and service faults, with a view to strengthening incentives for NBN Co to complete connections and rectify end user faults on shorter timeframes. The ACCC and NBN Co have expressed different views on the estimated rebate costs that would arise due to the change, with:[35]

- the ACCC suggesting that the removal of caps will incentivise earlier resolution of connection and fault issues, thereby giving rise to no incremental rebate costs; and
- NBN Co estimating costs of $8.6 million on the basis that:
  - the 'likelihood' of completing all connections and addressing all faults within the current capped timeframes is low even in the presence of stronger incentives; and
  - the 'causes for connections and faults remaining unresolved beyond the current cap timeframes are often beyond [NBN Co's] control'.

In principle, we accept NBN Co's proposition that stronger incentives to resolve issues in a timely fashion would not necessarily lead to all issues being addressed within current cap timeframes. It follows that NBN Co can be expected to incur some additional costs when rebate caps are abolished. At the same time, NBN Co acknowledges that it 'would have stronger incentives [to address issues earlier] if the cap were removed', and states that it has 'updated its costing to include an adjustment for this' relative to its February submission.[36]

We have reviewed the modelling underpinning NBN Co's $8.6 million cost estimate. This includes $8.3 million in rebate costs. When calculating the expected incremental rebate costs imposed by the removal of rebate caps, NBN Co simply calculates the average historical difference between:

- the total value of rebates it paid; and
- the total value of rebates it *would* have paid in the absence of rebate caps.

Notwithstanding NBN Co's claims in its submission, this approach supposes that the removal of rebate caps would have incentivised *no* changes in performance. NBN Co does not seek to capture the extent to which rebate cap removal leads to the earlier resolution of issues. Instead, the 'adjustment' mentioned in the submission is simply to omit the impact of FY24 rebate costs on the basis that it was an outlier year, ie:

[35] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, pp 63-64.

[36] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 64.

> nbn's revised forecast cost for the rebate excludes the impact of rebate costs from FY24 (which was an outlier for rebate costs relative to other years) on average rebate costs.

In our assessment, such an exclusion does not appropriately account for performance changes induced by the removal of rebate caps. To the extent that historical data is used to forecast future outcomes, it is our view that outliers ought to be excluded as a matter of good judgement. Thus, the exclusion of outliers does not constitute an 'adjustment' that is likely to capture behavioural responses to incentives.

In our opinion, a more appropriate approach for estimating the incremental costs of removing the rebate cap would be to consider separately:

- the magnitude of savings arising from earlier resolution of issues in response to new incentives; and
- the magnitude of costs that exceed rebate caps, caused by issues that cannot be resolved on shorter timeframes.

It appears that NBN Co has not taken any steps to calculate these savings and costs. We have been informed by NBN Co staff that it has limited ability to resolve issues earlier and thereby reduce its rebate cost burden. Although NBN Co has referred to factors that give rise to a long tail of case resolution timeframes (such as council approval, utility, rail, MDU body corporate and weather), the ACCC may wish to consider whether these factors are covered by connection and assurance exclusions. In the absence of further information, we have a limited basis in evidence to develop a revised estimate for the incremental cost of rebate cap removal.

Further, in our opinion, NBN Co has not adequately justified the $325,000 systems change costs associated with rebate cap removal. It states that this expenditure will fund changes to IT systems for implementing changes to communication, terminology and oversight for performance reports and targets, without setting out the need for these changes by reference to the revised standard.

Table 10.1 below presents a range of indicative scenarios below that adopt different assumptions about the proportion of NBN Co's stated rebate costs that would be saved due to the earlier resolution of issues. For each scenario we have removed the $325,000 systems change spend.

Table 10.1: Scenario analysis for removal of rebate caps

% of rebate costs avoided due to earlier resolution of issues	Cost estimate
25%	$6.2 million
50%	$4.1 million
75%	$2.1 million

The ACCC may wish to consider the purpose of rebates in the context of cost recovery. Insofar as the purpose of a rebate is to impose incentives and penalties on a regulated business, the ACCC may:

- elect not to permit NBN Co to recover rebate costs, in which case NBN Co would absorb all rebate costs that it incurs; or
- permit NBN Co to recover forecast (not actual) rebate costs, in which case NBN Co would retain (absorb) the savings (losses) that arise when its actual rebate costs are lower (higher) than the forecast levels.

The cost of investing in measures to reduce NBN Co's rebate burden would likely be considered recoverable within the regulatory framework – so long as those costs are incurred efficiently, ie:

- they are lower than the value of the avoided rebate payments; and

- they are as low as practicable.

11. Reducing the timeframe to complete copper network activities for residential (TC-4) customers (3.1 and 3.2)

The draft RMD proposed to reduce the timeframe for completing copper network activities for residential (TC-4) services from 375 business days to 125 business days,[37] with a view to resolving problematic copper connections more quickly and improving the end user experience. In doing so, the ACCC declined to accept NBN Co's original cost estimate of $60 million, instead adopting a figure of $18.6 million.

NBN Co proposes a revised estimate of $16.1 million. This estimate rests on an acceptance of our interpretation of the third-party access exclusion under section 24(c)(ii) of the BSS. NBN Co proposes an amendment that would formally exclude the time taken to obtain MDU representative body agreement from the measurement against the 125 business day timeframe.[38]

NBN Co has made five amendments to its cost modelling after reviewing the draft RMD, including adjusting base-year volumes and applying the complex MDU exclusion.[39] Although we consider most of these changes to be reasonable, we have adjusted volumes based on record keeping rule (RKR) data from the March 2026 quarter, during which there were 136 NATs designated.

We recognise that NBN Co's updated base-year volume is broadly consistent with the number that we presented in our previous analysis, which was based on the number of NATs recorded in the December 2025 quarter. Since we now have access to more recent data from the March 2026 data, we consider it appropriate to use this as the basis of our volume estimate. Consistent with the methodology set out in our first memorandum, we estimate that the number of NATs that NBN Co will complete in FY27 will be 544, being four times the number of new NATs designated in the March 2026 quarter.

In addition, we assume that the number of NATs will decline over time at the rate implied by NBN Co's own volume profile and that within each year, the proportion of total NATs allocated to each premise type will resemble the allocation in NBN Co's own volume profile.

The process through which we established a revised volume profile can therefore be summarised in the following steps;

- set total NAT volume for FY27 to 544, being four times the number of NATs designated in the March 2026 quarter;
- distribute these 544 NATs across premise types in proportion to the allocation in NBN Co's volume profile;
- for FY28 onwards, within each premise type, reduce the volume according to the same year-on-year rates of change implied in NBN Co's volume profile.

With this revised volume profile, NBN Co's modelling framework gives rise a cost estimate for meeting the reduced timeframe of $13.1 million over five years.

[37] For more context, see: HoustonKemp, *NBN Co's submission on proposed changes to benchmark service standards*, 8 April 2026, pp 10-11.

[38] NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, pp 30-31.

[39] For the full list, see: NBN Co, *NBN response to ACCC draft RMD: Part B – benchmark service standards*, 12 May 2026, p 32.